CLAIMS

What is claimed is:

1. A purified cancer-linked protein kinase, Hunk.

2. The purified protein of claim 1, comprising the amino acid sequence set forth in SEQID No. 2.

3. The isolated nucleotide sequence encoding the kinase of claim 1.

4. The isolated nucleotide sequence of claim 3, comprising the nucleotide sequence set forth in SEQID No:1.

5. A method of delivering the kinase of claim 1 to a target cell, wherein the method comprises delivering to the target cell an effective amount of the kinase.

6. The method of delivering the kinase of claim 3 to a target cell, wherein the method comprises delivering to the target cell an effective amount of the nucleotide sequence encoding the kinase.

7. A method of delivering a therapeutically effective amount of the kinase of claim 1 to a target cell in a patient in need of such kinase, wherein the method comprises delivering to the patient a therapeutically effective amount of the kinase of claim 1.

8. A method of delivering a therapeutically effective amount of the kinase of claim 3 to a target cell in a patient in need of such kinase, wherein the method comprises delivering to the patient a therapeutically effective amount of the nucleotide sequence encoding the kinase.

9. The method of claim 5, wherein the kinase acts as a marker of target cell activity.

10. A method of delivering to a target cell an inhibitor of the kinase of claim 1, wherein the method comprises delivering to the target cell an effective amount of the inhibitor to block the activation of, or decrease the activity of, the kinase in the target cell.

11. A method of delivering to a target cell an inhibitor of the kinase of claim 3, wherein the method comprises delivering to the target cell an effective amount of an antisense or anti-Hunk molecule to block the activation of, or decrease expression of, the kinase in the target cell.

12. The method of claim 10, wherein the kinase is overexpressed in the target cell, as compared with a comparable normal cell of the same type.

13. A method of delivering to a target cell an enhancer of the kinase of claim 1, wherein the method comprises delivering to the target cell an effective amount of a composition to activate or increase the activity of the kinase in the target cell.

14. A method of delivering to a target cell an enhancer of the kinase of claim 3, wherein the method comprises delivering to the target cell an effective amount of a composition to activate or increase the activity of the nucleotide sequence encoding the kinase in the target cell.

15. The method of claim 13, wherein the kinase is underexpressed in the target cell, as compared with a comparable normal cell of the same type.

16. A method of treating cancer, hyperproliferative disease or oncogene expression in a patient, wherein the method comprises delivering to a target cell in the patient a therapeutically effective amount of the nucleotide sequence of claim 3.

17. A method of treating cancer, hyperproliferative disease or oncogene expression in a patient, wherein the method comprises delivering to a target cell in the patient a therapeutically effective amount of the kinase of claim 1.

18. A method of treating cancer, hyperproliferative disease or oncogene expression in a patient, wherein the method comprises delivering to a target cell in the patient a therapeutically effective amount of an inhibitor of the kinase of claim 1 to block the activation of, or decrease the activity of, the kinase in the target cell.

19. A method of treating cancer, hyperproliferative disease or oncogene expression in a patient, wherein the method comprises delivering to a target cell in the patient a therapeutically effective amount of an inhibitor of the kinase of claim 3, wherein the inhibitor comprises an antisense or anti-*Hunk* molecule.

20. The method of claim 16, wherein the kinase is overexpressed in the target cell, as compared with a comparable normal cell of the same type.

21. The method of claim 17, wherein the kinase is overexpressed in the target cell, as compared with a comparable normal cell of the same type.

22. A method of treating cancer, hyperproliferative disease or oncogene expression in a patient, wherein the method comprises delivering to a target cell in the patient a therapeutically effective amount of an enhancer of the kinase of claim 1, wherein the method comprises delivering to the target cell an effective amount of a composition to activate or increase the activity of the kinase in the target cell.

23. A method of treating cancer, hyperproliferative disease or oncogene expression in a patient, wherein the method comprises delivering to a target cell in the patient a therapeutically effective amount of an enhancer of the kinase of claim 3, wherein the enhancer comprises a composition to activate or increase the activity of the nucleotide sequence encoding the kinase in the target cell.

24. The method of claim 22, wherein the kinase is underexpressed in the target cell, as compared with a comparable normal cell of the same type.

25. The method of claim 23, wherein the kinase is underexpressed in the target cell, as compared with a comparable normal cell of the same type.

26. A method of diagnosing a cancer, carcinoma, sarcoma, neoplasm, leukemia, lymphoma or hyperproliferative cell disease or oncogene expression in a patient, wherein the method comprises detecting the presence of the kinase of claim 1.

27. A method of diagnosing a cancer, carcinoma, sarcoma, neoplasm, leukemia, lymphoma or hyperproliferative cell disease or oncogene expression in a patient, wherein the method comprises measuring the kinase of claim 1.

28. A method of diagnosing a cancer, carcinoma, sarcoma, neoplasm, leukemia, lymphoma or hyperproliferative cell disease or oncogene expression in a patient, wherein the method comprises detecting the overexpression of the kinase of claim 1 in the target cell, as compared with a comparable normal cell of the same type.

29. A method of diagnosing a cancer, carcinoma, sarcoma, neoplasm, leukemia, lymphoma or hyperproliferative cell disease or oncogene expression in a patient, wherein the method comprises measuring the overexpression of the kinase of claim 1 in the target cell, as compared with a comparable normal cell of the same type.

30. A method of diagnosing a cancer, carcinoma, sarcoma, neoplasm, leukemia, lymphoma or hyperproliferative cell disease or oncogene expression in a patient, wherein the method comprises detecting the underexpression of the kinase of claim 1 in the target cell, as compared with a comparable normal cell of the same type.

31. A method of diagnosing a cancer, carcinoma, sarcoma, neoplasm, leukemia, lymphoma or hyperproliferative cell disease or oncogene expression in a patient, wherein the method comprises measuring the underexpression of the kinase of claim 1 in the target cell, as compared with a comparable normal cell of the same type.

32. A method of rapid screening for a selected compound that modulates the activity of the kinase of claim 1, comprising:

quantifying the expression of the kinase from a target cell;

treating the target cell by administering thereto the selected compound, wherein all other conditions are constant with those in the quantifying step;

quantifying the expression of the kinase from the treated target cell; and

comparing the two quantification measurements to determine the modulation of kinase activity achieved by treatment with the selected compound.

33. The method of claim 32, wherein the modulated activity comprises an inactivation of the kinase, or an underexpression or a measurable decrease in kinase activity.

34. The method of claim 32, wherein the modulated activity comprises an activation of the kinase, or an overexpression or a measurable increase in kinase activity.

35. The method of claim 32, wherein the modulated activity comprises transformation of the target cell.

36. The method of claim 32, wherein the compound comprises one or more compositions.

37. A method of using the kinase of claim 1 as a prognostic tool in a patient, wherein the method comprises detecting the presence of the kinase as a molecular marker in the patient to predict the behavior of a tumor, cancer, carcinoma, sarcoma, neoplasm, leukemia, lymphoma or hyperproliferative cell disease or oncogene expression in the patient, and applying that detection to predict the appropriate therapy for the patient to treat the tumor, cancer, carcinoma,

sarcoma, neoplasm, leukemia, lymphoma or hyperproliferative cell disease or oncogene expression.

38. A method of using the kinase of claim 1 as a prognostic tool in a patient, wherein the method comprises measuring the activity or change in activity of the kinase as a molecular marker in the patient to predict the behavior of a tumor, cancer, carcinoma, sarcoma, neoplasm, leukemia, lymphoma or hyperproliferative cell disease or oncogene expression in the patient, and applying that measurement to predict the appropriate therapy for the patient to treat the tumor, cancer, carcinoma, sarcoma, neoplasm, leukemia, lymphoma or hyperproliferative cell disease or oncogene expression.

39. A recombinant cell comprising the isolated nucleic acid of claim 3.

40. A vector comprising the isolated nucleic acid of claim 3.

41. An antibody specific for the polypeptide of claims 1, and homologues, analogs, derivatives or fragments thereof having Hunk activity.

42. An isolated nucleic acid sequence comprising a sequence complementary to all or part of the nucleic acid sequence of claim 3, and to mutants, derivatives, homologues or fragments thereof encoding a cell having Hunk activity.

43. The nucleic acid according to claim 3, comprising antisense activity at a level sufficient to regulate, control, or modulate Hunk activity in a target cell expressing the kinase.

44. A mammalian cell comprising the recombinant nucleic acid according to claim 42.

45. A transgenic cell comprising the protein according claim 1.

46. The isolated nucleic acid of claim 3, further comprising a reporter gene operably fused thereto, or a fragment thereof having reporter activity.

47. A transgenic animal comprising a transgene comprising an isolated nucleic acid of claim 3.